

What is claimed is:

1. An ID card generation apparatus comprising:

photography means for obtaining face photo data representing a face photo area of a predetermined format by
5 photographing the face photo area in an ID card comprising the face photo area added with a face photo of the predetermined format and an information storage area for storing various kinds of information including personal information of the person of the face photo;

10 code conversion means for converting the face photo data into code information; and

code information recording means for storing the code information in the information storage area.

2. The ID card generation apparatus according to Claim
15 1, wherein the face photo added to the face photo area is obtained by a face extraction apparatus comprising:

photography means for obtaining original image data representing an original image including the face of the person, the ID card of whom is being generated, by photographing the
20 face;

eye position detection means for detecting center positions of eyes in the face in the original image;

normalization means for obtaining a normalized original image by normalizing the original image in such a manner that
25 a distance between the center positions of the eyes that have been detected becomes a predetermined value; and

cutting means for obtaining face image data representing the face photo by cutting an image having the predetermined format from the normalized original image with reference to the distance between the center positions of the eyes in the face in the normalized original image.

3. The ID card generation apparatus according to Claim 1, wherein the photography means comprises:

eye position detection means for detecting center positions of eyes in the face in an original image represented by original image data obtained by photographing the face photo area;

normalization means for obtaining a normalized original image by normalizing the original image in such a manner that a distance between the center positions of the eyes that have been detected becomes a predetermined value; and

cutting means for obtaining the face photo data by cutting an image having the predetermined format from the normalized original image with reference to the distance between the center positions of the eyes in the face in the normalized original image.

4. An ID card comprising:

a face photo area added with a face photo of a predetermined format; and

an information storage area for storing various kinds of information including personal information of the person in the face photo, wherein

the information storage area stores code information generated by converting face photo data that are obtained by photographing the face photo area and represents the face photo area of the predetermined format.

5 5. The ID card according to Claim 4, wherein the face photo added to the face photo area is obtained by a face extraction apparatus comprising:

photography means for obtaining original image data representing an original image including the face of the person,
10 the ID card of whom is being generated, by photographing the face;

eye position detection means for detecting center positions of eyes in the face in the original image;

normalization means for obtaining a normalized original
15 image by normalizing the original image in such a manner that a distance between the center positions of the eyes that have been detected becomes a predetermined value; and

cutting means for obtaining face image data representing the face photo by cutting an image having the predetermined
20 format from the normalized original image with reference to the distance between the center positions of the eyes in the face in the normalized original image.

6. A face authentication terminal comprising:

photography means for obtaining photographed face data
25 representing a face image of a holder of the ID card in Claim 4 in the predetermined format by photographing the face of the

holder; and

information reading means for reading the personal information and the code information from the information storage area.

5 7. The face authentication terminal according to Claim 6, further comprising display means for displaying various kinds of information including the photographed face data.

8. The face authentication terminal according to Claim 6, further comprising:

10 registration means for registering personal information and code information of a large number of people;

information judgment means for carrying out judgment as to whether or not correlation personal information and correlation code information respectively corresponding to
15 the personal information and the code information that has been read has been registered with the registration means;

code conversion means for converting the photographed face data into code information;

code judgment means for carrying out judgment as to
20 whether or not the code information obtained by the code conversion means mostly agrees with the correlation code information; and

authentication information output means for outputting authentication information representing that the holder has
25 been authenticated in the case where results of the judgment by the information judgment means and the code judgment means

are both affirmative.

9. The face authentication terminal according to Claim 6, wherein the photography means comprises:

5 eye position detection means for detecting center positions of eyes in the face in an original image represented by original image data obtained by photography of the face of the holder of the ID card;

normalization means for obtaining a normalized original image by normalizing the original image in such a manner that
10 a distance between the center positions of the eyes that have been detected becomes a predetermined value; and

cutting means for obtaining the photographed face data by cutting an image having the predetermined format from the normalized original image with reference to the distance
15 between the center positions of the eyes in the face in the normalized original image.

10. A face authentication apparatus comprising:

information acquisition means for obtaining the photographed face data, the personal information, and the code
20 information obtained by the face authentication terminal in Claim 6;

registration means for registering personal information and code information of a large number of people;

information judgment means for carrying out judgment as
25 to whether or not correlation personal information and correlation code information respectively corresponding to

the personal information and the code information that has been obtained has been registered with the registration means;

code conversion means for converting the photographed face data into code information;

5 code judgment means for carrying out judgment as to whether or not the code information obtained by the code conversion means mostly agrees with the correlation code information; and

authentication information output means for outputting
10 authentication information representing that the holder has been authenticated in the case where results of the judgment by the information judgment means and the code judgment means are both affirmative.

11. A face authentication system comprising:

15 the face authentication terminal according to Claim 6;
and

a face authentication apparatus comprising:

information acquisition means for obtaining the photographed face data, the personal information, and the code
20 information obtained by the face authentication terminal;

registration means for registering personal information and code information of a large number of people;

information judgment means for carrying out judgment as to whether or not correlation personal information and
25 correlation code information respectively corresponding to the personal information and the code information that has been

obtained has been registered with the registration means;

code conversion means for converting the photographed face data into code information;

code judgment means for carrying out judgment as to whether or not the code information obtained by the code conversion means mostly agrees with the correlation code information; and

authentication information output means for outputting authentication information representing that the holder has been authenticated in the case where results of the judgment by the information judgment means and the code judgment means are both affirmative, wherein

the face authentication terminal and the face authentication apparatus are connected to each other in a manner enabling transmission and reception of various kinds of information.

12. The face authentication system according to Claim 11, further comprising the ID card generation apparatus in Claim 1.